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AUTHOR Jayaratne, Toby Epstein; Kaczala, Caroline
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ABSTRACT

Traditional sex difference research ignores the impact of social forces on the research process. It characteristically interprets sex differences as female deficiencies, also emphasizing the view of sex differences as determined by personal characteristics rather than situational contexts. Since research is a social process with a potentially powerful social impact, an awareness of the impact of cultural values on the process and an understanding of the political nature of research work are essential. Values too often bias the research product. A statement of the research problem is often restricted by social context and past theory. Researchers must reject the "deficit hypothesis" as a guide to research questions and must emphasize, when appropriate, situation-centered orientations to research, as opposed to person-centered activities. Cultural biases often result in the use of improper methods which support the false findings of sex differences. Research design must show an awareness of the impact of sex-related situational factors within the experiment. Most impact from research stems from the researcher's results, discussion, and/or conclusions, with little attention paid to methods which are of primary importance in assessing accuracy of findings. Researchers can minimize misinterpretation by careful presentations and by monitoring and correcting misinterpretations of their work. (PN)

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SOCIAL RESPONSIBILITY IN SEX DIFFERENCE RESEARCH

Toby Epstein Jayaratne

University of Michigan

Caroline Kaczala

Cleveland State University

TM 820604

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Only in the last 20 years or so has there been a systematic effort in the behavioral sciences to study sex differences. It had been customary before then to consider women not worthy enough for study alongside men (Campbell, 1981). This led to a large body of research literature on the psychological and behavioral functioning of white men, which was often erroneously and detrimentally applied to women and minorities (Campbell; 1981; Westkott, 1979). While this view still persists among some researchers, it has become less prevalent in the research literature as a whole.

Many of us who believed this research orientation detrimental to the social progress of women, also believed that research which correctly diagnosed and analyzed sex differences would support such progress. We believed that many "assumed" sex differences did not really exist, many existed to a much lesser degree than assumed, and those differences that seemed large could be explained primarily by research which focused on environmental factors as causal. Sex difference research would support our call for social change by indicating the situational and cultural causes of behavioral sex differences, thus explaining women's secondary status in society (Bernard, 1976).

Now that there exists a large and accumulating body of research on sex differences, we can see some progress. However, much of this sex difference research and often the research which gets the most public exposure, is research which seems to lend support to the secondary status of women. Not only does it characteristically interpret sex differences as female deficiencies, but it also emphasizes the view of sex differences as <u>determined</u> by personal

characteristics rather than situational contexts. This determinism which conjures up echoes of "biology is destiny" is exemplified by Benbow's recent comment that "women... would be better off accepting the differences" (Kolata, 1980, pp. 1234-1235).

Why do such theories persist and why does sex difference research which claims to support such theories receive such strong media attention? We will present some explanations, and in doing so, we will address some of the difficulties and dangers in conducting and interpreting sex difference research and suggest socially responsible alternatives to traditional research which will help us as social scientists more accurately understand the behavioral functioning of women and men.

Our main thesis is that research is a social process with a potentially powerful social impact. We strongly believe that researchers must assume responsibility for the social impact of their research (Bevan, 1976). This does not mean that it is sufficient to follow the guidelines for doing "good" research as outlined in any research text. It means that they must be aware of the possible impact of both their own and predominant cultural values on the research process (Myrdal, 1972; Sherif, 1979) and also the potential impact of their research on the media, on decision-makers and ultimately on the lives of women and men. Essentially, they must be aware of the political nature of their work.

This contrasts with many traditional researchers who separate their work from its social impact (Kerlinger, 1977; Jensen, 1973). They adhere to the myth of the "objective" scientific orientation and are primarily concerned with an "academic" or "intellectual" product

or contribution -- rather than a social one. Many believe their own values should not and do not play a role in research. But we assert that values do reflect research tradition as well as cultural stereotypes, and too often bias the research product -- primarily in the direction of supporting traditional stereotyping of sex differences. While values play an important part in all aspects of research, we will touch on three phases of the research process we feel most susceptible to bias: the statement of the research problem, the research design and method and the dissemination of conclusions and interpretations.

In the first phase of research we specify the research problem by selecting a topic "of interest," and asking questions about the topic. Many researchers are oblivious to the fact that such choices are strongly influenced by policies and socialization practices which function to support traditional sex differences (Bernard, 1976, Campbell, 1981; Weisstein, 1970). These choices are determined by funding agencies, popularity of research topics, tenure pressures, publishing pressures, institutional priorities and a researcher's socialization experiences both as an individual and professional. Each of these forces has a conservative push. That is, it primarily functions to support the status quo. For example, in the sex difference literature most researchers select topics and ask questions in a few stereotypical areas -- which are already heavily funded and popular in both professional journals and the public media. As social scientists, we must be keenly aware of our blindness to new theories and viewpoints and of how our theories and questions can be restricted by social context and past theory. This is most important since

answers we find and facts we unearth depend on such orientations (Feyerabend, 1975; Myrdal, 1972).

While there are many such value orientations or biases which impinge on the selection of research questions, we want to emphasize and reject two biases of this traditional research approach which are particularly common in sex difference research. The first bias, the "deficit hypothesis" (Cole & Bruner, 1971), grows out of the history of psychological and social research which has been conducted almost exclusively with white male subjects. Theories based on research with only male subjects often prove inadequate to explain female behavior. Women are then seen as deviant or deficient in comparison to the male ideal (Campbell, 1981; Cole & Bruner, 1971). Similar to cross-cultural research where other cultures are compared to our own, women are often seen only in comparison to men (Cole & Bruner, 1971). A good example is the achievement theory of McClelland. We believe that researchers must reject the deficit hypothesis as a legitimate guide to their research questions. As long as such a perspective is used to specify the research problem, any sex differences found will be interpreted as indicating women's inferior nature. We must refrain from always asking "How are women different from men?" but rather "What are women like?" and "What are men like?"

A second bias is toward person-blame causal attributions which ignore situationally relevant factors. The nature and consequences of this bias are discussed by Caplan and Nelson (1973) as they relate to research on Blacks, but we see it equally relevant to sex difference research. We believe that it is a fundamental goal of social science to document causal situational factors which when appropriately

structured can improve the quality of life. Therefore, we believe that it is the researchers' responsibility to emphasize, when appropriate, situation-centered orientations to research as opposed to person-centered approaches. Rather than asking "What sex differences exist?", we should ask "Under what circumstances do sex-differences exist?", a research question raised by Maccoby and Jacklin in 1974. For example, to state only that sex differences in achievement exist is to invite a victim-blame interpretation which supports the differential state of achievement for women and men. Instead, sex differences in achievement motivation must be explored to find the causes of these differences, the impact of these differences, and the areas and circumstances when differences occur and are absent. A relevant illustration is women's achievement in math and science. Irrespective of whether women's performance is due more to situational or more to inherent factors, a person-centered approach means that little effort will be made to encourage women in these areas. Certainly such an orientation is socially irresponsible.

Rejection of these two traditional approaches to research may involve the generation of completely new orientations and a broader research perspective (Sherif, 1979). We must specifically open up new areas of research which have been devalued in the past as "women's interests." In addition, we must eliminate problem definitions that conform to and "reinforce dominant cultural myth and cliches" (Caplan and Nelson, 1973, p. 201). For example, we must define variables in non-sexist terms -- work should include work inside and outside the home, both paid and unpaid; achievement should be seen as legitimate in various realms; and the definition of "parent" should include both

mother and father. We would like to add parenthetically that women researchers are no less susceptible to culturally induced fallacies since they are no less the products of their culture than are men.

The second part of the research process which impacts on its social relevance and therefore is a target of social responsibility is the research method, including choice of research design. Method is directly related to the research problem and therefore is also susceptible to the same difficulties brought on by lack of awareness of cultural bias. We would particularly like to address this discussion of methods to the question of the existence of sex differences. We believe that cultural biases often result in the use of improper methods which support the false findings of sex differences (see Caplan, 1975). This is well documented in the large amount of published results indicating sex differences and the relative rarity of published results indicating lack of sex differences in most professional journals (Maccoby & Jacklin, 1974). Researchers engaged in sex difference research have a social responsibility to use sound methods -- and to bend over backwards to do so.

Certainly the proper use of statistics is important and many have pointed out questionable practices that have been employed when reporting sex differences. One of the more common errors in sex difference research is the reporting of possible chance differences when a great number of variables are tested. A second common error is reliance on statistically significant mean differences when the actual difference is small and the within sex variances are large (Maccoby & Jacklin, 1974; Block, 1976). To say that men perform

significantly better than women on some task may sound impressive, but it may mean very little if the absolute difference is really very small or if there is a considerable range of performance values within sex.

Equally problematic are questions of design and instrumentation. The choice of tests and measures must be based on what we know about the effect of sex of subject on performance. Design must show an awareness of the impact of sex-related situational factors within the experiment. For example, the use of "double blind" experiments to counter the unconscious effect of expectations and prejudices on the part of the experimenter is not always practical since sex of the subject cannot usually be masked. This does not eliminate the researchers responsibility to minimize or document the effect of experimenter bias since various experimental situations have been shown to affect sex differences. Yet it is common for researchers to ignore these considerations (Caplan, 1975; Weisstein, 1970), and the result is usually research which incorrectly reports a finding of behavioral or attitudinal sex differences.

The final part of the research process which undoubtedly has the most direct social impact is data dissemination, which primarily includes publications and presentations. In most cases these are organized into the standard research literature, method, results and discussion, and conclusion sections. But we would like to emphasize our belief that most impact from research stems from the researchers results and discussion and/or conclusions -- with little attention paid to method -- which is of primary importance in assessing accuracy of the findings. This is due, in part, to the fact that decision-

makers, media representatives, and the public want simple answers and do not have the expertise to critique the methodology. However, it is also due to social researchers who review the research literature without a critical eye.

There are two research practices which complicate this problem. First, there is too much literature which inaccurately presents the results. An example is the author who reports a large sex difference when in fact the data show the difference to be quite small. This is not a methodological issue, but one of blatant bias or sloppiness. And most often the inaccurate reporting of results is in the direction which supports sex differences and these in a direction unfavorable to women. Another common practice is to report only significant sex differences and ignore non-significant ones. A second practice that is problematic is that the researcher's interpretation of the results are often too broad and unsupported by empirical data. Interpretation is different than inaccurate reporting, and is primarily due to bias -- or a researcher indicating support for their own views with insufficient data. For example, a researcher might conclude that sex differences which were found resulted from a particular cause or may result in a particular effect even though there are no data collected to test such assumptions. This research practice is not uncommon. There is nothing wrong with speculating on the meaning or causes of results but there must be a strong effort to insure that readers do not interpret speculation as conclusion.

It is also not uncommon for researchers to imply that sex of the subject is itself the causal variable -- again a person-blame perspective. It is important to remember that since sex is not an

experimentally manipulated variable, it can not be used as a causal variable.

Obviously, these research practices are extremely dangerous since unsupported interpretations and conclusions get reported and are used by the media and policymakers. Researchers have a social responsibility therefore not only to accurately report the findings but to draw conclusions very cautiously. One method which helps the reader interpret findings correctly is for the researchers to clearly state their own biases and values, so that the reader can judge results, interpretations and conclusions in such light.

There are additional problems with other dissemination practices. Most researchers believe their professional obligation ends with the published or presented paper. However, given the politically "hot" nature of and public interest in sex difference research, researchers involved in studies of sex differences have a special obligation to assure that their research is not misinterpreted by the media or policy-makers. While they cannot completely guarantee against such misinterpretation, they can minimize such a possibility by careful presentations and by monitoring and correcting misinterpretations of their work.

Four points are particularly relevant in predicting misinterpretations and guarding against them. First, research findings which are incompatible with the status quo are at an initial disadvantage since they may require major changes in attitude (Feyerabend, 1975). This is evident in the selective reporting of the media (Beckwith & Durkin, 1981). Researchers must make an extra effort to insure appropriate dissemination and interpretation of such

non-traditional findings. Second, policy makers, the media, and the public have a tendency to think of behaviors in "either/or" terms. They are likely to simplify or reinterpret more complex results or look for a single statement to answer a question which typically distorts the more elaborate answer which the researcher gave. Researchers must guard against such simplistic explanations, but also need to explain their results in such a way that a complex finding is understandable to the unsophisticated reader. Third, many policy makers favor person-centered explanations of behaviors because they imply person change rather than system-change (Caplan & Nelson, 1973). Again, we believe such a person-centered view is antithetical to social progress in most situations. To counter such forces, researchers must emphasize situational explanations for sex differences. Fourth, the public will tend to interpret any sex difference as more absolute than it is. For example, if data are presented which show men to be significantly better on a task than women, this will tend to be interpreted as indicating that all men are better than all women -- which obviously is not the case. Most researchers would not want the public to think that all girls are incapable of high math achievement, even if boys presently have a significantly higher level of math achievement than girls. But this is exactly how some will interpret research which indicates such results. Researchers must present their findings of sex differences so that this interpretation is unlikely. One method is to strongly emphasize the large overlap between the sexes despite a significant difference.

In addition to these responsibilities for data dissemination,

since much of the discrimination against women is formally or informally legislated, we believe that social scientists should make optimal use of their research as input in social policy or decision-making processes. While we acknowledge that a researcher making a full-time effort at dissemination would have no time for research, our point is that most researchers engaged in sex difference studies make little effort at more than traditional dissemination procedures and we believe that this is not in the best interests of social progress. Finally, we believe that social scientists have a responsibility to speak out openly against research which is conducted or disseminated in an irresponsible manner or violates standard research principles. While such a response does not often receive as much professional or popular media coverage as the original research and is not always effective in correcting the research errors, we cannot ignore such irresponsibility. Not only will this research negatively affect the integrity of our own profession, but may also negatively affect people's lives.

We have attempted to show how much of traditional sex difference research ignores the impact of social forces on the research process. While the researcher's values impact on all phases of the research process, we believe that in sex difference research certain practices are particularly susceptible to such forces. These forces exert subtle pressures to confirm commonplace notions of sex differences and thus promote the traditional inequalities and sex-stereotyping of women and men. Since it is the social scientist who ultimately is responsible for the research which directly or indirectly impacts on the lives of women and men, it is the responsibility of the social

scientist to recognize these forces and counter them with appropriate resources and skills. Not only is such social responsibility in sex difference research particularly important since social biases and prejudices are so strong in this area, but it is imperative if sex difference research is going to support policies which allow individuals to develop to their full potential regardless of their sex.

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